

# BOTANICAL MUSEUM LEAFLETS

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### STUDIES IN AMERICAN ORCHIDS X\*

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In preparing the final manuscript of the Orchid Flora of Colombia and Ecuador a number of correlated material from the neighboring countries had to be investigated. These studies which cannot directly be incorporated into the main text of the "Flora", are presented here. Number IX of this series was published in Botanical Museum Leaflets, 24: 299-304, 1973.

**Habenaria linguicruris** Rchb.f., Bonpl. 2: 10, 1854.

Type: Venezuela; Caracas, WAGENER 96! (W).

Syn.: *Habenaria Ernstii* Schltr., Fedde, Rep. Beih. 6: 26, 1919.

Type: Venezuela; Caracas, ERNST *s.n.*! (AMES).

A comparison of the holotypes of *H. linguicruris* and *H. Ernstii* with one another has shown them to be conspecific.

**Porphyrostachys parviflora** (C. Schweinf.) Garay, *stat. nov.*

Basionym: *Stenoptera pilifera* var. *parviflora* C. Schweinf. in Bot. Mus. Leafl. Harv. Univ. 9: 222, 1941.

Syn.: *Stenoptera parviflora* (C. Schweinf.) C. Schweinf. in Fieldiana Bot. 33: 4, 1970.

Type: Peru; Huanuco, Llata, MACBRIDE & FEATHERSTONE 2301! (F).

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The plants of the genus *Porphyrostachys* may be separated from *Stenoptera* in that the flowers have a column with a long, decurrent foot to which the lip is adnate; lateral sepals are also decurrent on the ovary. These characters are absent in *Stenoptera*.

***Psilochilus carinatus* Garay, *sp. nov.***

Terrestris, erecta, usque ad 30 cm. alta; caulibus ascendentibus, pluriarticulatis, primum vaginatis, deinde laxe paucifoliatis; foliis ovato-ellipticis, acutis vel subacuminatis, basi rotundatis, breviter petiolatis, usque ad 9.5 cm. longis, 4 cm. latis; inflorescentia terminali, pauciflora; bracteis distichis, ovato-lanceolatis, usque ad 1.5 cm. longis, sursum decrescentibus; floribus succedaneis; sepalo postico lineari-oblongo, acuto, dorsaliter in medio carinato-incrassato, usque ad 21 mm. longo, 3.5 mm. lato; sepalis lateralibus falcato-linearibus, acutis, dorsaliter subcarinatis, usque ad 18 mm. longis, 3.5 mm. latis; petalis tenuibus, falcato-ob lanceolatis, acutis, usque ad 18 mm. longis, 3 mm. latis; labello longe unguiculato, deinde cuneato-trilobo, lobis lateralibus oblique triangularibus, lobo intermedio antico, subquadrato-rotundato, antice truncato, margine eroso-denticulato, disco in medio bicarinato, carina tertia in ungue, usque ad 17 mm. longo, 7 mm. lato; columna gracili, arcuata, alis subtruncato-denticulatis, usque ad 15 mm. longa; ovario cylindrico, breviter pedicellato, usque ad 15 mm. longo.

**Colombia:** Sierra Nevada de Santa Marta, PURDIE *s.n.*! type! (K); Fusagasugá, HOLTON *s.n.*! (K).

***Palmorchis colombiana* Garay, *sp. nov.***

Herba terrestris, elata, pars quae adest, 40 cm. longa; radicibus nondum notis; caulibus supra foliosis; foliis satis tenuibus, ellipticis, acutis vel abrupte acuminatis, basi longe petiolatis; lamina usque ad 20 cm. longa, 7.5 cm. lata; petiolo usque ad 10 cm. longo; inflorescentiis satis gracilibus, remote plurivaginatibus, supra subdense plurifloris, usque ad 12 cm. longis; bracteis lanceolatis, acuminatis, usque ad 10 mm. longis; floribus albidis, succedaneis; sepalo postico lineari-ligulato, obtusius-

culo, usque ad 12 mm. longo, 2 mm. lato; sepalis lateralibus oblique falcato-ob lanceolatis, obtusis, usque ad 10 mm. longis, 2.5 mm. latis; petalis ob lanceolato-dolabriformibus, obtusis, usque ad 11.5 mm. longis, 3 mm. latis; labello basin lineariconduplicato, puberulo, deinde trapezoideo, utrinque obtusangulo, antice tridentato, lacinia mediana carnosae; toto labello usque ad 10 mm. longo; 7 mm. lato; columna gracili, antice villosa, usque ad 10 mm. longa; ovario pedicellato satis gracili, usque ad 10 mm. longo.

**Colombia:** Dept. El Valle, Río Calima, Quebrada de La Brea, 30-40 m. alt., SCHULTES & VILLARREAL 7370! (AMES), type!

**Psilochilus physurifolius** (Rchb. f.) Løjtnant in Bot. Notiser 130: 168, 1977.

Basionym: *Pogonia physurifolia* Rchb.f. in Nederl. Kruidk. 4: 324, 1858.

Type: British Guiana, without precise locality, SCHOMBURGK *s.n.*! (K).

Through the courtesy of Dr. Peter Taylor, Curator of the Orchid Herbarium at Kew, I was able to examine the type-specimen of *Pogonia physurifolia*. The dissection of one of the glued-down flowers revealed a triandrous condition of the column. As a matter of fact, all details of the flower agree remarkably with those collected by BROADWAY *s.n.*! in Grenada, the latter which was identified and illustrated by Ames as *Psilochilus macrophyllus* (Lindl.) Ames. — See Ames, *Orchidaceae* 7: 45, Pl. 110, 1922. — The lip in *P. macrophyllus* differs in its different proportions and its short claw; *P. Maderoi* (Schltr.) Schltr. has a distinct keel on the long claw. The Ecuadorian material published as *P. physurifolius* is based on a wrong determination; its correct disposition will be given in the currently published *Orchids of Ecuador*.

**Triphora Ravenii** (L.O. Wms.) Garay, *comb. nov.*

Basionym: *Pogonia Ravenii* L. O. Wms. in *Fieldiana, Bot.* 32: 200, 1970.

Type: Costa Rica; 6 km. S. of San Vito de Java, RAVEN 21837! (F).

An examination of the holotype clearly shows that this species is a member of the genus *Triphora* and closely related to *T. amazonica* Schltr.

**Pseudocentrum Purdii** Garay, *sp. nov.*

Terrestris, erecta, usque ad 65 cm. alta; radicibus fasciculatis, carnosis, pilosis; foliis basilaribus, rosulatis, longe petiolatis, petiolis canaliculatis, usque ad 13 cm. longis, laminis oblique ellipticis vel ovato-ellipticis, abrupte acuminatis, herbaceis, usque ad 18 cm. longis, 6.5 cm. latis; scapo erecto, vaginato, supra racemoso; racemo cylindrico, satis dense multifloro, usque ad 16 cm. longo; bracteis ovato-lanceolatis, acuminatis, 1.5 cm. longis, 0.5 cm. latis; floribus extus villosis; sepalo postico ovato, subacuminato, usque ad 6 mm. longo, 2 mm. lato; sepalis lateralibus connatis, apice liberis, oblique ovato-falcatis, 4 mm. longis, 3 mm. latis, deinde cylindraco-canaliculatis, usque ad 2 cm. longis; petalis linearibus, acuminatis, usque ad 4 mm. longis, 1 mm. latis; labello sessili, 3-lobo, lobis lateralibus linearibus, 3 mm. longis, parallelis, deinde abrupte in lobum intermedium, conduplicatum, linearem, apice inflatum, decurrentibus, infra apicem lobulo fornicato donato, toto labello usque ad 18 mm. longo; ovario gracili, cylindrico, satis dense villoso, usque ad 11 mm. longo.

**Colombia:** Dept. de la Guajira, Mont del Agua, Molina, Río Hacha, Hacha, PURDIE *s.n.*! (K).

**Sobralia Fenzliana** Rchb.f. in Bot. Zeit. 10: 714, 1852.

Type: Panama; Chiriqui, WARSCEWICZ 48! (W).

Syn.: *Sobralia panamensis* Schltr. in Fedde, Rep. Beih. 17: 11, 1922.

Type: Panama; Gatun Lake, POWELL 21! (AMES)

At the time Schlechter described *S. Powellii*, the type of *S. Fenzliana* was not available to him, judging from an *ex char.* determination of a drawing he sent to Professor Ames. An examination of the holotype of both species confirms their conspecificity. Recently I have seen material of this species also from Colombia and Ecuador.

**Sobralia luteola** Rolfe in Kew Bull. 199, 1898.

Type: Tropical America: flowered in cultivation by RALLI *s.n.*! (K).

Syn.: *Sobralia pleiantha* Schltr. in Fedde, Rep. 3: 79, 1906.

Type: Costa Rica: Boruca, PITTIER 3855! (AMES).

The rather short, distichous inflorescence with imbricating bracts and the production of flowers in a rapid succession are the distinguishing features of this species. An examination of both holotypes confirms them to be conspecific.

**Sobralia Powellii** Schltr. in Fedde, Rep. Beih. 17: 11, 1922.

Type: Panama: near Gatun Lake, POWELL 2! (AMES).

*Sobralia Powellii* has been treated as a synonym of *S. leucoxantha* Rchb.f. by all contemporary students of American orchids. An examination of the type of *S. leucoxantha*, however, clearly indicates that both species are amply distinct, not only in vegetative aspects, but also in size and structure of the flowers. The original mix-up is most probably due to the misidentification of Plate 7058 in the BOTANICAL MAGAZINE. Ironically, most of the true *S. leucoxantha* specimens in herbaria are misidentified as *S. macra* Schltr., which, however, is not a synonym of *S. leucoxantha*. I have seen material also from Costa Rica, Colombia and Ecuador.

**Sobralia Warscewiczii** Rchb.f. in Bot. Zeit. 10: 714, 1852.

Type: Panama; Chiriqui, WARSCEWICZ 8! (W).

Syn.: *Sobralia Amparoae* Schltr. in Fedde, Rep. Beih. 19: 8, 1923.

Type: Costa Rica; from cultivation, TONDUZ 51! (AMES).

*Sobralia Hawkesii* Heller in Phytologia 14: 16, 1966.

Type: Nicaragua; Dept. Granada, Volcán Mombacho, HELLER & HAWKES 3025 (F).

An examination of the types of *S. Warscewiczii* and *S. Amparoae* and a comparison of them with the published illustration of *S. Hawkesii* indicates that all three species are conspecific with one another.

**Elleanthus** Presl, Rel. Haenk. 1: 97, 1827.

Sepals free, rarely spreading; dorsal sepal concave; lateral sepals basally connivent, gibbose. Petals free, usually thinner in texture. Lip longer than sepals, concave with a flared apex, basally cymbiform, excavate or gibbous with one or two distinct corpuscles or calli. Column erect, footless but with oblique base, winged above. Stigmata confluent into one, prominent under the triangular rostellum. Anther incumbent. Pollinia 8, in unequal massulae. Erect or branching shrublike plants with fibrous roots. Stem erect, ascending or decumbent, cane-like, leafy. Leaves distichous, rigid, plicate, sessile on arpophyllaceous, adpressed leaf-sheath. Inflorescence terminal, racemose or subcapitate, commonly rather dense and many-flowered, rarely lax and few-flowered. Bracts conspicuous, but not foliaceous. Flowers rather small, but attractively colored.

Lectotype: *Elleanthus lancifolius* Presl [Britton & Wilson in Sci. Surv. Porto Rico 5, pt. 2: 203, 1924].

Approximately 70 species in tropical America and West Indies.

#### KEY TO SECTIONS

1. Rachis shortened into a tightly packed, subglobose head; column with a prominent, infrastigmatic protuberance forming a distinct mentum ..... Sect. **Cephalelyna**
- 1a. Rachis elongate, densely or loosely spicate; column without an infrastigmatic mentum, at most angular-protuberant ..... 2
2. Inflorescence lateral ..... Sect. **Laterales**
- 2a. Inflorescence terminal ..... 3
3. Flowers and bracts in an all-sided spike or secund ..... 4
- 3a. Flowers and bracts in a distichous to bifarious spike, either approximate, imbricate or remote on a flexuous to strongly fractiflex raceme . 7
4. Calli of lip freely exposed in basal cavity ..... 5
- 4a. Calli of lip partially hidden behind a transverse membrane covering the entrance to basal cavity in part ..... Sect. **Hymenophora**
5. Calli of lip tightly approximate or confluent in fresh condition, variously sulcate in middle, especially when dried, centrally affixed to didymous cavity ..... Sect. **Calelyna**
- 5a. Calli of lip free from one another and distinctly separated, each located either at the center or at the base of their respective cavities ..... 6
6. Column with a biauriculate clinandrium; lateral sepals more or less connate ..... Sect. **Otiophora**

- 6a. Column with an exauriculate clinandrium; lateral sepals free from one another ..... Sect. **Stachydelyna**
- 7. Base of lip subglobose, didymous-saccate; calli inserted basally or centrally in cavity ..... Sect. **Chloidelyna**
- 7a. Base of lip conical, subcalcarate-saccate, not didymous; calli inserted on sides of cavity ..... Sect. **Elleanthus**

**Elleanthus** Sect. **Cephalelyna** (Rchb.f.) Rchb.f. in Walp. Ann. 6: 474, 1862.

Basionym: *Evelyna* Sect. *Cephalelyna* Rchb.f. in Bot. Zeit. 10: 709, 1852.

Lectotype: *Evelyna casapensis* Rchb.f. in hoc loco.

Inflorescence terminal, capitate; rachis shortened into a tightly packed, subglobose head; column with a prominent, infrastigmatic mentum.

This section is the most difficult as well as the most misunderstood in the genus due to the superficial resemblance of its members to one another. Since I did not find a correct treatment in any of the floristic works pertaining to this group of plants, a short synopsis with key to all species is provided here:

#### KEY TO SPECIES

- 1. Lip ovate; petals linear-filiform, 1-nerved; infrastigmatic protuberance of column with a median, recurved digit ..... **E. Killipii**
- 1a. Lip cuneate-flabellate to more or less orbicular; petals wider, several-nerved; infrastigmatic protuberance of column without a median, recurved digit ..... 2
- 2. Lip from a concave or saccate base cuneate-flabellate ..... 3
- 2a. Lip from a concave or saccate base orbicular to suborbicular .... 7
- 3. Infrastigmatic protuberance papillose-hirsute ..... 4
- 3a. Infrastigmatic protuberance glabrous ..... 6
- 4. Lateral sepals oblong-ligulate, acute; petals entire ..... 5
- 4a. Lateral sepals obliquely ovate-lanceolate, acuminate, petals erose-denticulate ..... **E. Glomera**
- 5. Stem slender; bracts ovate; lip from a saccate base transversely elliptic-flabellate with erose-dentate margin, retuse in front ..... **E. capitatus**
- 5a. Stem stout; bracts elliptic; lip from a concave base obovate-flabellate with entire margin, bilobed in front. .... **E. Sodiroi**
- 6. Sepals more or less connate at base; lip deeply excised in middle .. **E. Hookeranus**
- 6a. Sepals free to base; lip slightly retuse in front .. **E. sphaerocephalus**

- 7. Infrastigmatic protuberance short, poorly developed, obscurely papillose; bracts lanceolate, long-acuminate ..... **E. cynarocephalus**
- 7a. Infrastigmatic protuberance elongate, well-developed, glabrous; bracts ovate-lanceolate, shortly acuminate ..... 8
- 8. Petals as wide as the sepals; lip emarginate in front with a median apicule ..... **E. cephalotus**
- 8a. Petals narrower than sepals; lip emarginate to bilobed in front without a median apicule ..... 9
- 9. Lateral sepals 3-nerved; lip coarsely lacerate-fimbriate to lacerate-dentate along margin ..... **E. brasiliensis**
- 9a. Lateral sepals 5- to 7-nerved; lip minutely erose-denticulate along margin ..... **E. casapensis**

## ENUMERATION OF SPECIES

**Elleanthus brasiliensis** (Lindl.) Rchb.f. in Walp. Ann. 6: 478, 1862.

Basionym: *Evelyna brasiliensis* Lindl. in Hook., Lond. Journ. Bot. 2: 661, 1843.

Type: Brazil; Organ Mountains, GARDNER 642 (K).

The specimen in the Lindley herbarium is collected by GARDNER 673! (K-L) which I examined. It is at variance with Lindley's drawing on the same sheet where the lip is shown as having broadly triangular apiculate apex. However, Lindley at the time of original publication did not describe any floral details.

**Elleanthus capitatus** (Poepp. & Endl.) Rchb.f. in Walp. Ann. 6: 475, 1862.

Basionym: *Evelyna capitata* Poepp. & Endl., Nov. Gen. ac Sp. Pl. 1: 32, 1836.

Type: Peru; near Cuchero, POEPPIG *s.n.*! (W).

Syn.: *Evelyna cephalophora* Rchb.f. in Bot. Zeit. 10: 709, 1852.

*Elleanthus cephalophorus* (Rchb.f.) Rchb.f. in Walp. Ann. 6: 476, 1862.

Type: Peru; near Cuchero, POEPPIG 1638! (W).

The very slender plants have rather small heads. *Elleanthus cephalophorus* on one of the herbarium sheets has been annotated by Reichenbach himself in 1885 to be conspecific with *E. capitatus*.



**Elleanthus casapensis** (Rchb.f.) Rchb.f. in Walp. Ann. 6: 475, 1862.

Basionym: *Evelyna casapensis* Rchb.f. in Bot. Zeit. 10: 709, 1852.

Type: Peru; Casapi, MATTHEWS 1891! (W).

This is the most common species in the Andes from Colombia to Peru. The leaves are abruptly constricted below the apex into a long-acuminate tip.

**Elleanthus cephalotus** Garay & Sweet in Journ. Arnold Arb. 53: 390, 1972.

Basionym: *Bletia capitata* R. Br. in Aiton, Hort. Kew. ed. 2, 5: 206, 1813.

Syn.: *Elleanthus capitatus* (R. Br.) Rchb.f. ex Cogn. in Urban, Symb. Antill. 6: 561, 1910, not (Poepp. & Endl.) Rchb.f., 1862.

Type: West Indies (probably Jamaica), without precise locality. Introduced by SIR JOSEPH BANKS *s.n.*! in 1795 and flowered at Kew Gardens Aug. 15, 1796! (BM).

This species is apparently restricted to the West Indian Islands. It may be distinguished from all other members in this section by the broad petals which are of the same width as the sepals. A good illustration as well as a description is given in the *Orchids of Jamaica* by Fawcett and Rendle.

**Elleanthus cynarocephalus** (Rchb.f.) Rchb.f., Walp. Ann. 6: 476, 1862.

Basionym: *Evelyna cynarocephala* Rchb.f., Bonpl. 4: 216, 1856.

Syn: *Epidendrum capitatum* Sessé & Mociño, Fl. Mex., ed. 2, 202, 1894.

Type: Mexico, Mt. Tuxtla, SESSÉ & MOCIÑO *s.n.*! (Herb. Pavón) (G).

Terrestrial plants, up to 50 cm. tall. Stem erect, leafy, completely enclosed by striate leaf-sheaths. Leaves elliptic-lanceolate, long-acuminate, ribbed, up to 18 cm. long and 3.5 cm. wide. Inflorescence terminal, sessile, capitate. Bracts congested, ovate-lanceolate to lanceolate, acuminate, up to 6

cm. long, decreasing inwards. Flowers rose-colored. Dorsal sepal oblong-ligulate, obtuse, 3-nerved, up to 11 mm. long and 3 mm. wide; lateral sepals connate for 3 mm. at base, together cymbiform; free portion linear-oblong, obliquely acute, each up to 11 mm. long and 3 mm. wide. Petals linear-oblong, rounded at apex, erose-denticulate above, 3-nerved, up to 10 mm. long and 2 mm. wide. Lip suborbicular, lightly excised in front with wavy and obscurely denticulate margin, slightly gibbose at base, provided with a pair of small ovoid calli, up to 12 mm. long and wide. Column winged, more or less sigmoid with a prominent chin. Ovary cylindrical, ribbed, sessile, up to 15 mm. long.

Since Reichenbach did not describe the floral details a new description is given here, prepared from the type. There are 3 specimens in existence. The type is in Geneva, a duplicate of it in the Reichenbach Herbarium in Vienna, while the third, with the original handwritten label, once part of the Lambert Herbarium, is in the British Museum of Natural History. A good illustration is to be found in Hamer, *Las Orquideas de El Salvador* 1: 157, 1974, where it is called *Elleanthus cephalotus*. The basally connate sepals are unique in the section.

**Elleanthus Glomera** Garay, *nom. nov.*

Basionym: *Glomera brasiliensis* Barb. Rodr., Gen. et Sp. Orch. Nov. 1: 147, 1877.

Type: Brazil; Prov. S. Paulo, near Santos, MOSÉN 3485 (S).

An examination of Rodrigues's original drawings of floral details of *Glomera brasiliensis*, now in the Library of the Orchid Herbarium of Oakes Ames, has convinced me that this species is sufficiently distinct from the *E. brasiliensis*.

**Elleanthus Hookeranus** (Barb. Rodr.) Garay, *comb. nov.*

Basionym: *Evelyna Hookerana* Barb. Rodr., Gen. et Sp. Orch. Nov. 2: 166, 1881.

Syn.: *Elleanthus brasiliensis* var. *Hookeranus* (Barb. Rodr.) Cogn. in Mart., Fl. Bras. 3(5): 327, 1901.

Lectotype: Brazil; Prov. Rio de Janeiro, Serra d'Estrella, BARBOSA RODRIGUES *s.n.* No specimen known

to exist; Rodrigues's original drawing in the Library of the Orchid Herbarium of Oakes Ames is selected here for holotype! (AMES)

**Elleanthus Killipii** Garay, *sp. nov.*

Plantae elatae, usque ad 80 cm. altae; radicibus fasciculatis, flexuosis, carnosis; caulibus erectis, primum vaginatis deinde multifoliatis; foliis lanceolatis, acuminatis, base cuneatis, subtus 5-7 nerviis, usque ad 23 cm. longis, 4 cm. latis; inflorescentia terminali, capitata, dense pluriflora, ca. 2.5 cm. diametenti; bracteis ovato-lanceolatis, acuminatis, usque ad 2 cm. longis; floribus pallide purpureis; sepalo postico oblongo-ligulato, acuto, basin extus sparse furfuraceo, usque ad 11.5 mm. longo, 3 mm. lato; sepalis lateralibus oblique oblongo-ligulatis, acutis vel subacuminatis, basi excavatis, extus sparse furfuraceis, usque ad 13 mm. longis, 3 mm. latis; petalis lineari-filiformibus, acuminatis, uninerviis, usque ad 11 mm. longis, 1 mm. latis; labello concavo, basi saccato, intus callis vel corpusculis 2, ovoideis, antice evanescentibus ornato, deinde in laminam ovatam, antice tridenticulatam expanso, margine minutissime erosulo, toto labello usque ad 12 mm. longo, 10 mm. lato; columna suberecta, tabula infrastigmatica 3-lobo intermedio pubescenti, recurva, usque ad 7 mm. longa; ovario cylindrico, pubescenti, usque ad 9 mm. longo.

**Colombia:** Dept. El Valle, Buenaventura, coastal thickets, 10 m. alt., KILLIP 11760! type! (AMES), KILLIP 5215! (AMES, US).

*Elleanthus Killipii* is readily distinguishable from the other species in the Section *Cephalelyna* by the shape of the ovate lip and the linear-filiform, 1-nerved petals.

**Elleanthus Sodiroi** Schltr. in Fedde, Rep. 14: 387, 1916.

Type: Ecuador; Pichincha near Quito, SODIRO 38! (BR).

So far this species is known only from Ecuador. An outstanding field character is the entire margin to the obovate-flabellate lip.

**Elleanthus sphaerocephalus** Schltr. in Fedde, Rep. Beih. 27: 17, 1924.

Type: Colombia; Dept. Nariño, Pasto, HOPP 33.

This species is now known from Venezuela to Bolivia. As a matter of fact, it is illustrated in Dunsterville & Garay, VENEZUELAN ORCHIDS 4: 70, 1966 under the name of *E. capitatus*.

**Elleanthus Sect. Laterales** Garay *sect. nov.*

Type: *Elleanthus lateralis* Garay (in press).

Inflorescentia lateralis, spicata; columna sub fovea stigmatica ut plurimum angulata, nunquam mentum formantia.

**Elleanthus Sect. Hymenophora** Garay, *sect. nov.*

Type: *Evelyna hymenophora* Rchb.f.

Inflorescentia terminalis, spicata; flores quaquaversae; columna sub fovea stigmatica angulata; calli labelli pro maxima parte post membranum foveae inclusi.

**Elleanthus Sect. Calelyna** (Rchb.f.) Benth. & Hook., Gen. Pl. 3: 522, 1883.

Basionym: *Evelyna* Subg. *Calelyna* Rchb.f. in Bot. Zeit. 10: 708, 1852.

Syn.: *Elleanthus* Subg. *Calelyna* (Rchb.f.) Rchb.f. in Walp. Ann 6: 473, 1862.

Lectotype: *Evelyna myrosmatis* Rchb.f. *in hoc loco*.

Inflorescence terminal, spicate; flowers quaquaversal; column angulate; calli of lip freely exposed in basal cavity, tightly approximate or confluent in fresh condition, variously sulcate in middle when dry.

**Elleanthus Sect. Otiophora** Garay, *sect. nov.*

Type: *Elleanthus Caroli* Schltr.

Inflorescentia terminalis, spicata; flores quaquaversae; sepala lateralia plus minusve connata; columna sub fovea stigmatica angulata; clinandrium biauriculatum.

**Elleanthus** Sect. **Stachydelyna** (Rchb.f.) Rchb.f. in Walp. Ann. 6: 476, 1862.

Basionym: *Evelyna* Sect. *Stachydelyna* Rchb.f. in Bot. Zeit 10: 709, 1852.

Lectotype: *Evelyna Lindenii* Rchb.f. in hoc loco.

Inflorescence terminal, spicate; lateral sepals free; flowers all-sided; column angulate; clinandrium exauriculate.

**Elleanthus** Sect. **Chloidelyna** (Rchb.f.) Garay, *comb. nov.*

Basionym: *Evelyna* Subsect. *Chloidelyna* Rchb.f. in Bot. Zeit. 10: 709, 1852.

Syn.: *Elleanthus* Subsect. *Chloidelyna* (Rchb.f.) Rchb.f. in Walp. Ann. 6: 476, 1862.

Type: *Evelyna graminifolia* Poepp. & Endl.

Inflorescence terminal, spicate; flowers distichous; column angulate; base of lip subglobose, didymous, saccate; calli free, inserted basally or centrally in cavity.

**Elleanthus confusus** Garay, *sp. nov.*

Plantae fruticosae, ramosae, supra metrales; caulibus erectis, strictis, infra vaginatis, supra paucifoliatis; ramis abbreviatis, supra 3-, 4-foliatis, usque ad 12 cm longis; foliis coriaceis, subplicatis, lanceolatis, subacuminatis, usque ad 7 cm. longis, 1.5 cm. latis; inflorescentia terminali, sessili, laxe pauciflora, usque ad 3.5 cm. longa; rhachide sinuoso-fractiflexa; bracteis ovato-cucullatis, acutis, rigidis, lepidotis, usque ad 12 mm. longis; floribus satis tenuibus, albidis, pallide roseo-suffusis, glabris; sepalo postico anguste ovato, concave obtuso, plus minusve mucronato, usque ad 8 mm. longo, 3 mm. lato; sepalis lateralibus oblique ovato-oblongis, concavis, acutis, apice dorsaliter carinatis, usque ad 8.5 mm. longis, 3.5 mm. latis; petalis cuneato-spathulatis, obtusis, margine sub apice utrinque denticulatis, usque ad 9 mm. longis, 4 mm. latis; labello in circuitu subrotundo, basi globoso-saccato, intus callis 2, parallelis ornato, lamina antice biloba, margine irregulariter lacerato-dentata, disco ante saccum transverse incrassato; toto labello usque ad 10 mm. longo latoque; columna arcuato-

clavata, alata, juxta rostellum auriculata, usque ad 5 mm. longa; ovario cylindrico, furfuraceo.

**Venezuela:** EDO. ARAGUA; Rancho Grande, DUNSTERVILLE 533! — EDO. BOLIVAR; Cerro Venamo, STEYERMARK & DUNSTERVILLE 92507! Type! (AMES); Chimantá Massif, STEYERMARK 75735! (AMES, F, NY).

This new species was illustrated in *Venezuelan Orchids* 2: 100, 1961 as *E. virgatus* (Rchb.f.) C. Schweinf., and in *Lasser, Flora de Venezuela* 15(1): 226, 1970 as *E. kermesinus* (Lindl.) Rchb.f. It differs from the former in the coriaceous bracts and the differently proportioned lip; from the latter in dissimilar floral segments and the shape of the column.

### **Elleanthus** Sect. **Elleanthus**

Lectotype: *Elleanthus lancifolius* Presl

Syn.: *Elleanthus* Sect. *Virgatae* Garay in *Orquideologia* 4: 15, 1969.

Type: *Sertifera virgata* Rchb.f.

Inflorescence terminal, spicate; flowers distichous; column angulate; base of lip conical, subcalcarate-saccate, not didymous, calli inserted on sides of cavity.

### **Elleanthus formosus** Garay, *sp. nov.*

Plantae, erectae, verosimiliter ramosae, partes quae adsunt usque ad 15 cm. longae; caulibus erectis, infra vaginatis, supra 2- 4-foliatis; foliis satis coriaceis, plicatis, anguste lanceolato-ellipticis, subacuminatis, basin cuneatis, usque ad 10 cm. longis, 1.5 cm. latis; inflorescentia terminali, sessili, usque ad 7 cm. longa; rhachide filiformi, valde fractiflexa, laxe 4-, 6-flora; bracteis cymbiformibus, scariosis, usque ad 2 cm. longis, sursum decrescentibus; floribus illis *E. virgatis* semillimis sed multo majoribus; sepalo postico elliptico, apice rotundato, in medio breviter mucronato, usque ad 11 mm. longo, 4 mm. lato; sepalis lateralibus oblique ovatis, rotundatis, breviter mucronatis, usque ad 12 mm. longis, 5 mm. latis; petalis e cuneata basi obovatis apice, rotundatis, usque ad 11 mm. longis, 4 mm. latis; labello saccato, intus callis vel corpusculis lateraliter

insertis ornato, lamina in ambitu suborbiculari, antice valde biloba, margine crenulata, disco longitudinaliter incrassato in medio, toto labello 17 mm. longo, 12 mm. lato; columna cylindrica, usque ad 7 mm. longa; ovario cylindrico, obscure alato, usque ad 7 mm. longo.

**Colombia:** DEPT. NARIÑO, on road Barbacoas-Tuqueres, SCHMIDTCHEN *s.n.*! Type! (W).

**Cybebus** Garay, *gen. nov.*

Etymology: Greek *Kybebos* = stooping, with head bent, in reference to the rectangularly bent flowers.

Sepala inter se breviter in tubum cylindricum, arcuatum connata, deinde libera, arcuato-potentia. Petala sepalo postico conniventia. Labellum horizontale, naviculare. Columna rectangulariter arcuata, dimidio superiore porrecta, libera, dimidio inferiore sepalis connata, et cum eis pedem elongatum, arcuatum formans; clinandrium amplum; rostellum transversum, 3-lobum, lobo intermedio lineari-triangulo; stigmata 2, sub rostellulo confluentia.

Herbae terrestres elatae, grandiflorae; radicibus fasciculatis tuberosis; foliis basilaribus, plurimis, petiolatis; scapo erecto, vaginato, supra laxo paucifloro; bracteis prominentibus, ovariiis longioribus; floribus speciosis, magnis; ovario cylindrico, sessili.

Type: *Cybebus grandis* Garay

Species singula, adhuc nota, Colombiana.

This new genus is closest to *Mesadenus* Schltr. in the structure of the rostellum and in the general appearance of the flowers. The rectangularly arcuate column with a long foot, and the tubulose base of the sepals readily differentiate this genus from the other members of the *Spiranthes* alliance.

**Cybebus grandis** Garay, *sp. nov.*

Terrestris, erecta, usque ad 50 cm. alta; radicibus fasciculatis, tuberosis, villosis; foliis basilaribus, plurimis, in specimine nostro 5-nis, petiolatis; petiolis canaliculatis, basin imbricantibus, usque ad 10 cm. longis; laminis oblique ovato-ellipticis, acutis, basi acuto-cuneatis, usque ad 12 cm. longis,

5.5 cm. latis; scapo erecto, plurivaginato, infra glabro, supra puberulo, tertia parte superiori laxe paucifloro; bracteis lineari-lanceolatis, acuminatis, ovariis duplo superantibus, usque ad 5.5 cm. longis; floribus speciosis, extus puberulis; sepalis inter se in tubum arcuato-cylindricum breviter connatis, deinde liberis, arcuato-patentibus; sepalo postico anguste lanceolato-elliptico, acuminato, usque ad 35 + 5 mm. longo, 7 mm. lato; sepalis lateralibus lineari-lanceolatis, acuminatis, usque ad 35 + 5 mm. longis, 5 mm. latis; petalis e cuneata basi falcato-dolabriformibus, acuminatis, omnino glabris, usque ad 35 + 5 mm. longis, 7 mm. latis; labello porrecto, naviculari, apice recurvo, basi biauriculato-sagittato, usque ad 35 mm. longo, 10 mm. lato; columna arcuata, facie puberula, usque ad 18 mm. longa; rostello prominenti, 3-lobo, 2 mm. longo, 3 mm. lato; ovario cylindrico, puberulo, torto, usque ad 3.5 cm. longo.

**Colombia:** Depto. del Cauca, near lake El Tambo, Munchique, K. VON SNEIDERN 731! type! (S).

**Cyclopogon** Presl, Rel. Haenk. 1: 93, t.13, f-1, 1827.

Etymology: *Kyklos* = circle and *pogon* = tail [i.e., of fire], with divided ends, in reference to the (reddish?) sepals which arise in a circle from a tube, like tails of fire with divided ends.

Type: *Cyclopogon ovalifolium* Presl.

The diagnostic features of the genus *Cyclopogon* for the past 125 years have been completely misunderstood. *Cyclopogon* was generally regarded a synonym of *Spiranthes* since 1840, when Lindley transferred it in his *Genera and Species of Orchidaceous Plants*. In 1920, Schlechter reinstated it in his study of the *Spiranthianae*, with a rather detailed generic circumscription. Unfortunately both of these students of orchidology overlooked the fact that Haenke's illustrations show a peculiar character, albeit not mentioned in the original description, namely, the sepals are connate with one another to form a distinct sepaline tube.

Recently I have seen several collections from Ecuador and Peru referable to *C. ovalifolium* which I intended to describe as



a new genus, based on the fusion of the sepals. Once I became aware of the characters of the true *Cyclopogon*, I requested the type from Prague, and an examination of it confirmed my interpretation. *Cyclopogon* is closest to the genus *Gamosepalum*, but in the latter genus the column in the flowers is adnate dorsally to the sepals.

It must be emphasized that the circumscription given by Schlechter for *Cyclopogon* is no longer tenable. Fortunately, for Schlechter's concept the generic name, *Beadlea* Small is available. Appropriate transfers are being made in the new generic revision of the *Spiranthinae* by Dr. Pabst and me.

The following amplified descriptions are prepared from the type-material and from the additional material at hand. The genus is monotypic.

Sepals similar, basally connate into a cylindrical tube, above free. Petals connivent with dorsal sepal, basally for a short distance adnate to column. Lip broadly unguiculate, sagittate-auriculate, the claw adnate to sepaline tube. Column free, elongate, slender, cylindrical, pubescent in front, basally produced into a short, somewhat descending foot; stigmata 2, approximately touching each other; rostellum elongate, ligulate, truncate or obscurely excised; anther in the descending clinandrium dorsal, erect, 2-celled. Ovary sessile. Terrestrial plants with fleshy, fasciculate, villose roots. Leaves basal, many, petiolate. Scape slender, several-sheathed, spicate above. Bracts linear-setaceous. Flowers small.

***Cyclopogon ovalifolium*** Presl, Rel. Haenk. 1: 93, 1827.

Syn.: *Spiranthes Preslii* Lindl., Gen. and Sp. Orch. Pl. 470, 1840.

*Gyrostachys ovalifolia* (Presl) O. Ktze., Rev. Gen. Pl. 2: 664, 1891.

Type: Peru; Prov. Huánuco, HAENKE *s.n.*! (PR).

Terrestrial plants, up to 35 cm. tall. Roots fasciculate, rather thick, fleshy, villose. Leaves basal, up to 5, petiolate; blade obliquely elliptic to ovate-elliptic, acute, basally rounded or abruptly cuneate, up to 7.5 cm. long and 4 cm. wide, commonly smaller; petiole slender, canaliculate, up to 5 cm. long. Scape

erect, slender, loosely several-sheathed, terminated by a one-sided spike; spike cylindrical, subdensely many-flowered, very variable in length, 4 to 14 cm. long. Bracts linear to linear-setaceous, up to 15 mm. long. Flowers small, tubular, greenish or brownish green. Sepals similar, linear-ligulate, obtuse, basally connate into a distinct, cylindrical tube which is 2.5 to 3.5 mm. long, including the tube up to 8.5 mm. long and 1.5 mm. wide. Petals linear-subspathulate, rounded, up to 8 mm. long and 1 mm. wide. Lip unguiculate, sagittate-auriculate at base, the auricles flat and more or less rounded; blade linear-oblong, constricted at one-fourth from apex producing a transversely elliptic, terminal lobe; disc pubescent; whole lip up to 8.5 mm. long and 3 mm. wide in front. Column slender, up to 6 mm. long. Ovary sessile, glabrous, cylindrical, up to 4 mm. long.

**Ecuador:** IMBARBURA; along trail to Río Changuayaco, below Magnolia, lower Intag Valley, DREW E-587! (AMES). — PICHINCHA: on western side of Cerro Pichincha, JAMESON 38! (K-L). — PASTAZA: in the vicinity of Colonia Játiva, ca. 12 km. from Mera, H. LUGO 98! (AMES, GB). — **Peru:** HUÁNUCO, HAENKE *s.n.*! (PR). — SAN MARTIN, Roque, MELIN 111! (S).

**Sauroglossum andinum** (Hauman) Garay, *stat. nov.*

Basionym: *Spiranthes nitida* var. *andina* Hauman in Anal. Soc. Cienc. Argent. 90: 123, 1921.

Lectotype: Argentina; Prov. Catamarca, Rodeo, CASTIL-LON 2042!, *in hoc loco*.

In general appearance the plants of *S. andinum* are very similar to *S. distans* Lindl. ex Garay, but the floral segments, especially the shape of lip, are amply distinct from one another.

**Sauroglossum aurantiacum** (C. Schweinf.) Garay, *stat. nov.*

Basionym: *Spiranthes Weberbaueri* var. *aurantiaca* C. Schweinf. in Bot. Mus. Leaf. Harv. Univ. 15: 7, 1951.

Type: Peru; Prov. Urubamba, Piri, VARGAS 5935! (AMES).

In general appearance the plants are like those of *S. longiflorum* (Schltr.) Garay (*comb. nov.* in press); in floral detail they are reminiscent of *S. elatum* Lindl.

**Sauroglossum corymbosum** (Lindl.) Garay, *comb. nov.*

Basionym: *Synassa corymbosa* Lindl. in Bot. Reg. 19: sub t. 1618, 1833.

Syn: *Pelexia corymbosa* (Lindl.) Lindl., Gen. and Sp. Orch. Pl. 482, 1840.

*Synassa dilatata* Lindl. ex Krzl. in Engl., Bot. Jahrb. 54, Beibl. 117: 19, 1916, *sphalm.*

*Spiranthes subumbellata* C. Schweinf. in Bot. Mus. Leafl. Harv. Univ. 10: 31, 1941.

Type: Peru; without precise locality, PAVÓN *s.n.*! (K-L).

A point-by-point comparison of the characters I have observed in the dissected flowers of the type-specimens of *Synassa corymbosa* Lindl. and *Sauroglossum elatum* Lindl. failed to disclose any criteria by which the two species could be kept apart generically.

**Sauroglossum distans** Lindl. ex Garay, *sp. nov.*

Terrestris, erecta, usque ad 60 cm. alta; foliis basilaribus, ellipticis vel obovato-ellipticis, basin versus subpetiolato-angustatis, acutis, usque ad 13 cm. longis, 3.3 cm. latis; scapo erecto, primum vaginis imbricatis oblecto, supra laxo multifloro; bracteis lanceolatis, acuminatis, usque ad 2 cm. longis, sursum decrescentibus; floribus extus pubescentibus; sepalo postico lineari-oblongo, concavo, acuto, usque ad 10 mm. longo, 2 mm. lato; sepalis lateralibus oblique lineari-oblongo, acutis, usque ad 12 mm. longis, 2 mm. latis; petalis e lineari basi oblanceolatis, acutis, basi decurrentibus, usque ad 10 mm. longis, 1.2 mm. latis; labello e lineari basi spatulato, lamina plus minusve rhomboidea, margine subcrenulata, disco basin obscure bicalloso, in medio laminae linea incrassata ornato; toto labello usque ad 13 mm. longo, 4 mm. lato; columna gracili, glabra, usque ad 8 mm. longa; ovario fusiformi, puberulo, brevissime pedicellato, usque ad 10 mm. longo. — *Sauroglossum distans* Lindl. *nomen nudum* in Ann. Mag. Nat. Hist. ser. 3, 1: 334, 1856.

**Bolivia:** without precise locality, BRIDGES *s.n.*! type! (K).

- Hapalorchis lineatus** (Lindl.) Schltr. in Beih. Bot. Centralbl. 37(2): 363, 1920.  
 Basionym: *Spiranthes lineata* Lindl., Gen. and Sp. Orch. Pl. 471, 1840.  
 Syn.: *Gyrostachys lineata* (Lindl.) O. Ktze., Rev. Gen. Pl. 2: 664, 1891.  
*Cyclopogon lineatus* (Lindl.) Pabst in Bradea 1: 466, 1975.  
 Lectotype: Brazil; São Paulo, MARTIUS *s.n.*! (M), *in hoc loco*.  
*Sauroglossum monophyllum* Griseb., Symb. Fl. Argent. 339, 1879.  
 Type: Argentina; Prov. Oran, LORENTZ & HIERONYMUS 286 (CORD).  
*Sauroglossum tenue* Lindl. in Ann. Mag. Nat. Hist. ser. 3, 1: 334, 1856.  
*Spiranthes tenuis* (Lindl.) Benth. ex Fawc., Fl. Pl. Jam. 40, 1893, not Lindl. 1840.  
*Spiranthes Fawcettii* Cogn. in Fedde. Rep. 7: 123, 1909.  
*Hapalorchis tenuis* (Lindl.) Schltr. in Beih. Bot. Centralbl. 37 (2): 363, 1920.  
 Type: Cuba; Monte Verde, WRIGHT 622! (K-L).  
*Spiranthes amabilis* Ames, Sched. Orch. 2: 8, 1923.  
 Type: Guatamala; Dept. Alta Verapaz, Cobán, TUERCKHEIM II-1787! (US).  
*Cyclopogon stenoglossus* Pabst in Bradea 1: 468, 1975.  
 Type: Brazil; Minas Gerais, near Caxambu, WELTER 188! (HB).

While reviewing the genus *Hapalorchis* for the Flora of Ecuador, it became apparent that Lindley included two different species under the original description of *Spiranthes lineata*. He examined Martius' collection which is mostly in fruit and included with it a drawing by Descourtilz prepared in the field. Since a specimen always takes precedence over drawings when available, the Martius collection must be regarded as the lectotype for the species. I have studied this collection and

it shows an autogamous plant in which the pollinia wrap themselves around the rostellum. Consequently, when the flowers are dissected, the rostellum always becomes ruptured and torn, showing a 3-dentate clinandrium. The situation is the same in the type-collections of *Sauroglossum tenue*, *Spiranthes amabilis* and *Cyclopogon stenoglossus*. It is rather obvious that we are dealing with a rather widespread species with very little internal variation. On the other hand, the Descourtilz drawing represents a distinct, outcrossing species which is limited in distribution to southern Brazil. For those plants I propose the name *Hapalorchis Lindleyanus*.

**Hapalorchis Lindleyanus** Garay, *sp. nov.*

Terrestris erecta, usque ad 30 cm. alta; radicibus crassis, villosis; foliis plurimis, petiolatis, petiolis canaliculatis, gracilibus, base vaginatis, usque ad 3 cm. longis; laminis ovatis, acutis, basi rotundatis, usque ad 4.5 cm. longis, 2 cm. latis; pedunculo erecto, vaginifero, supra laxe paucifloro; bracteis ovato-cucullatis, longe acuminatis, usque ad 1.5 cm. longis, sursum decrescentibus; floribus satis tenuibus, extus basin sparse pubescentibus, secundis; sepalo postico lineari-oblongo, concavo, apiculato, usque ad 8 mm. longo, 2 mm. lato; sepalis lateralibus porrectis, oblongo-linearibus, acutis, usque ad 8 mm. longis, 1.2 mm. latis; petalis lineari-spathulatis, subacuminatis, margine superiore subcrenulatis, usque ad 8 mm. longis, 1.3 mm. latis; labello ima basi excavato, lamina primum subquadrata, deinde in lobum reniformem expansa, disco in centro pubescenti, basin margine incrassata, antice lineis ternis valde discoloribus ornata; toto labello usque ad 7 mm. longo, 5 mm. lato; columna usque ad 5 mm. longa; ovario ovoideo, pubescenti, usque ad 8 mm. longo.

**Brazil:** Therezopolis, Rio, M. & R. FOSTER 1005! type! (AMES).

As I stated above, the specimens referable to this rather common species have always been confused with *H. lineatus* from which it differs in having larger floral segments and dissimilar lip.

**Pelexia Hameri** Garay, *sp. nov.*

Terrestris, gracilis, usque ad 30 cm. alta; radicibus fasciculatis, tuberosis, villosis; foliis basilaribus, ut videtur 2, sub anthesin jam emarcidis, ovatis, obtusis vel subacutis, distincte breviter petiolatis, petiolis inclusis usque ad 5 cm. longis, 1.8 cm. latis; scapo gracili, plurivaginato, puberulo, supra laxo multifloro, spicato; bracteis ovato-lanceolatis, acuminatis, usque ad 9 mm. longis; floribus viridi-albidis, extus sparse pubescentibus; sepalo postico anguste ovato-lanceolato vel ovato-elliptico, obtuso, usque ad 3.8 mm. longo, 1 mm. lato; sepalis lateralibus oblongo-ligulatis, obtusis, usque ad 4 mm. longis, 1.2 mm. latis, basin oblique saccatis, sacco 2 mm. longo; petalis sepalo postico conniventibus, e cuneata basi oblique lineari-dolabri formibus, obtusis, usque ad 4 mm. longis, 1 mm. latis, labello unguiculato, basi lineari-falcato sagittato, lamina conduplicata, lineari-oblonga, apice abrupte in lobum reniformem expansa, margine repanda; disco basin lobi terminali papilloso-incrassato; toto labello 5.5 mm. longo, 3 mm. lato; columna infundibuliformi, 2 mm. longa, basi in pedem decurrentem, 2 mm. longam producta; ovario arcuato-fusiformi, puberulo, sessili, usque ad 6 mm. longo.

**El Salvador:** in the gardens of Doña Hertha Freund in San Benito, San Salvador, HAMER 613! type! (AMES).

The plants are reminiscent of weak specimens of *P. Schaffneri* (Rchb.f.) Schltr., but the flowers are very different. This smallest-flowered *Pelexia* is dedicated to Mr. Fritz Hamer, whose lavishly illustrated, two-volume work on the Orchids of El Salvador is one of the most outstanding contributions to our knowledge of the orchids of Central America.

**Sarcoglottis Lehmannii** Garay, *sp. nov.*

Terrestris, elata, usque ad 30 cm. alta; radicibus fasciculatis, crassis, villosis; foliis rosulatis, petiolatis; petiolis canaliculatis, usque ad 6 cm. longis, laminis late ellipticis, utrinque obtusis vel subacutis, usque ad 16 cm. longis, 6 cm. latis; scapo erecto, vaginis acuminatissimis, imbricatibusque oblecto, supra laxo racemoso, paucifloro; bracteis ovato-lanceolatis, acuminatissimis, usque ad 2.5 cm. longis; floribus, parvu-

lis, extus dense pubescentibus; sepalo postico anguste elliptico, acuto, usque ad 12 mm. longo, 3 mm. lato; sepalis lateralibus ovario longe decurrentibus, oblique lanceolatis, subacuminatis, usque ad 10 + 18 mm. longis, 3 mm. latis; petalis e cuneata basi oblique anguste falcato-ellipticis, acutis, margine minute ciliolatis, usque ad 11 mm. longis, 2 mm. latis; labello dimidio basali anguste lineari, deinde in laminam ovatam, canaliculatam, intus sparse pubescentem expanso, apice lobulo cordiformi, acuminatissimo, recurvo producto, basi auriculis filiformibus, 4 mm. longis donato, toto labello usque ad 25 mm. longo, 4 mm. lato; rostello 2.5 mm. longo; ovario cylindrico, pubescenti, usque ad 15 mm. longo.

**Colombia:** DEPT. CAUCA, Timbiqui, LEHMANN *s.n.*! type. [H.K. 1263] (K).

**Buchtienia rosea** Garay, *sp. nov.*

Terrestris, elata, usque ad 120 cm. alta; radicibus fasciculatis, carnosis, villosis; foliis basilaribus, ut videtur duis, longe petiolatis, petiolis canaliculatis, robustiusculis, usque ad 29 cm. longis, laminis late ellipticis, subacutis vel obtusis, basi subcordato-cuneatis, usque ad 23 cm. longis, 13 cm. latis; scapo erecto, primum vaginato, deinde laxe racemoso; racemo cylindrico, multifloro, usque ad 35 cm. longo; bracteis linearilanceolatis, anguste acuminatis, usque ad 2 cm. longis, sursum decrescentibus; floribus carnosis, roseis; sepalo postico anguste elliptico, acuto, extus sparse puberulo, usque ad 9 mm. longo, 3 mm. lato; sepalis lateralibus oblique ovato-lanceolatis, subacuminatis, extus sparse puberulis, usque ad 12 mm. longis, 3 mm. latis; petalis oblique falcato-ellipticis, utrinque attenuatis, acutis, usque ad 9 mm. longis, 2 mm. latis; labello e basi subquadrato aequaliter cuneato-trilobo, lobis lateralibus, oblongis, apice rotundatis, lobo intermedio triangulari, obtuso, 2 mm. longo, disco basin marginaliter incrassato; toto labello 7 mm. longo, 6 mm. lato; ovario cylindrico, pubescenti, usque ad 11 cm. longo.

**Peru:** Dept. Cuzco, on road from Mistiana to Keros, VARGAS 7381! type! (AMES).

It differs from *B. boliviensis* Schltr. in the color of the flow-

ers, in the not long-acuminate sepals and the differently proportioned lip which is equally 3-lobed in front with a very short midlobe.

**Eltroplectris pauciflora** (Poepp. & Endl.) Garay, *comb. nov.*

Basionym: *Pelexia pauciflora* Poepp. & Endl., Nov. Gen. ac Sp. Pl. 2: 17, t. 124, 1837.

Syn.: *Physurus pauciflorus* (Poepp. & Endl.) Lindl., Gen. and Sp. Orch. Pl. 504, 1840.

*Erythrodes pauciflora* (Poepp. & Endl.) Ames, Orchid. 7: 75, 1922.

Type: Brazil; Prov. Amazonas, Rio Negro, around Ega, POEPPIG *s.n.*! (W).

It is difficult to understand why this plant was treated as a member of the genus *Physurus* or *Erythrodes* by former students of orchidology. The plants have neither rhizome nor cauline leaves, nor have the lips a distinct spur. An examination of the type undoubtedly places it in the genus *Eltroplectris*, and its closest relative is another Brazilian species, namely, *E. longicornu* (Cogn.) Pabst.

**Platythelys peruviana** Garay, *sp. nov.*

Terrestris, parvula, usque ad 12.5 cm. alta; rhizomate ascendenti, pluriarticulato; caulibus gracilibus, infra vaginatis, supra laxe paucifoliatis; foliis lineari-lanceolatis, acuminatis, basi rotundatis, breviter petiolatis, petiolo incluso usque ad 3.5 cm. longis, 0.6 cm. latis; inflorescentia terminali, abbreviata, pauciflora, usque ad 2.2 cm. longa; pedunculo 1.5 cm. longo; floribus satis parvulis; sepal postico anguste ovato, obtuso, concavo, usque ad 3.5 mm. longo, 1.2 mm. lato; sepalis lateralibus oblique oblongo-ligulatis, obtusis, usque ad 3.5 mm. longis, 1.2 mm. latis; petalis cuneato-ob lanceolatis, acutis vel subacuminatis, usque ad 3 mm. longis, 0.5 mm. latis; labello calcarato, calcare cylindrico, usque ad 3 mm. longo, lamina bipartita: hypochilio valde concavo, antice emarginato, epichilio late cordato-reniformi, acuminato, utrinque rotundato, toto labello 3 mm. longo, 1.5 mm. lato; ovario arcuato-cylindrico, glabro, usque ad 6 mm. longo.



**Peru:** Dept. Junín, Chanchamayo Valley, SCHUNCKE 569! type! (F).

Specimens of this species have been reported in the literature erroneously as *Erythrodes querceticola* (Lindl.) Ames.

***Stelis trigoniflora*** (Sw.) Garay, *comb. nov.*

Basionym: *Epidendrum trigoniflorum* Sw., Nov. Gen. & Sp. Pl., Prodr. 125, 1788, excluding synonyms.

Syn.: *Stelis ophioglossoides* Auct. not Sw. in Schrad., Journ. Bot. 2 (4): 239, 1800.

When Swartz described *Epidendrum trigoniflorum*, he based his description on his own collection from Jamaica. He also prepared detailed drawings of it for inclusion in his *Icones Plantarum Incognitarum*, t. 49, but they remained unpublished. Under *Epidendrum trigoniflorum* Swartz cited in synonymy the plate of *Epidendrum ophioglossoides*, t. 133, f. 2, which Jacquin published in 1763. In 1791, in his *Observationes Botanicae*, p. 332, under *E. ophioglossoides* Swartz remarks: "Plantae Plumieri & Jacquini certe distinctae. . . . JACQUINI . . . ad *E. trigoniflorum* (Prodr. p. 125) pertinet, affirmative planta Ipsius in Museo BANKSIANO servata." I have examined the Jacquin material and it is specifically different from *Epidendrum trigoniflorum*, while the Plumier material is a true *Pleurothallis*.

Although convinced that the Plumier and Jacquin illustrations and material were different from one another, in 1800, in proposing the genus *Stelis*, Swartz united them under *Stelis ophioglossoides* under which name the error persisted until recently (See Garay & Sweet in Journ. Arnold Arb. 53: 391 and 528, 1972). I have recently noticed that Turton has already separated *Epidendrum ophioglossoides* Jacq. and *Epidendrum trigoniflorum* Sw. as two distinct species in his *Vegetable Kingdom* 2: 1508 and 1511, 1806.

***Octomeria truncata*** Hoffmsgg., Preis. Verz. Orch. 26, 1842.

Type: Brazil; Rio de Janeiro, HOFFMANSEGG *s.n.*! (W).

Syn.: *Octomeria lobulosa* Rchb.f. in Hamb. Gartenz. 14: 215, 1858.

Type: Brazil; without precise locality, cult. SCHILLER *s.n.*!  
(W).

It is difficult to understand why Reichenbach described *O. lobulosa* when the actual type-material of *O. truncata*, both drawings and specimens were in his possession since 1840. Morphologically the specimens and flowers of both species are indistinguishable.

**Epidendrum tropidioides** Garay, *sp. nov.*

Plantae procurentes, valde ramosae; caulibus primum vaginantibus, supra paucifoliatis, compressis; foliis lanceolato-oblongis, acutis vel subacuminatis, basi caulem amplexantibus, usque ad 20 cm. longis, 2.2 cm. latis; inflorescentiis terminalibus, arcuatis; pedunculo prominenti, compresso, alato, usque ad 13 cm. longo, apice ramoso; ramis racemosis, arcuatis, usque ad 15 cm. longis; bracteis distichis, ovato-cucullatis, acutis, usque ad 1.5 cm. longis, illis Tropidiis in mentem revocantibus; floribus satis firmis, magnis, pallide viridis, extus purpureo-striatis; sepalo postico anguste lanceolato, acuto, usque ad 2.2 cm. longo, 5 mm. lato; sepalis lateralibus dorsali simillimis sed paulo angustioribus; petalis e cuneata basi rhombeo-spathulatis; acutis, margine interiore sublobatis, usque ad 2.2 cm. longis, 9 mm. latis; labello in ambitu cuneato-obovato, antice trilobo, lobis lateralibus brevibus, rotundatis, lobo intermedio antico, suborbiculari, acuto, margine erosulo; disco supra basin bicarinato, toto labello 2.2 cm. longo, 8 mm. lato; columna humili, clinandrio urceolato, usque ad 8 mm. longo; ovario cylindrico, glabro, usque ad 1.5 cm. longo.

**Colombia:** DEPT. PUTUMAYO, 5 km. N.E. of Sibundoy, BRISTOL 388! type! (AMES).

**Chondrorhyncha stenioides** Garay, *sp. nov.*

Epiphytica, caespitosa, humilis, usque ad 15 cm. alta; radicibus carnosis, leviter flexuosis, glabris; caulibus nullis; foliis ad 3, distichis, obovato-oblancheolatis, acutis, satis tenuibus, basi cuneatis et vaginis conduplicatis articulatis, usque ad 13 cm. longis, 3 cm. latis, in exsiccatione angustioribus;

pedunculo laterali, gracili, unifloro, usque ad 3 cm. longo; bractea ovato-cucullata vel infundibuliformi, usque ad 7 mm. longa; floribus satis magnis, apertis, albidis vel viridi-albidis, labello intus obscure purpureo-maculato; sepalo postico valde concavo-cucullato, in ambitu subrotundo-elliptico, obtuso, usque ad 20 mm. longo, 16 mm. lato; sepalis lateralibus patentibus, ovato-ellipticis, basin versus excavatis, obtusis, usque ad 24 mm. longis, 10 mm. latis; petalis cum sepalo postico conniventibus, oblique late ellipticis, obtusis, usque ad 20 mm. longis, 12 mm. latis; labello valde carnosus, complicatus, in ambitu triangulo, lobis lateralibus inter se subquadratis, replicatis, deinde in lobo terminali, rhynchophoro, tubuloso continuis, disco a basi usque ad medium carina sigmoidea decoro, in medio callo denticulato, transverso ornato, toto labello usque ad 13 mm. longo, 10 mm. lato; columna cylindrica, usque ad 9 mm. alta, basi in pedem, 8 mm. longam producta; pollinibus 4, inaequalibus, obpyriformibus; ovario costato, glabro, usque ad 12 mm. longo.

**Ecuador:** Prov. Pastaza, at confluence of Río Verde and Río Pastaza, STACY *s.n.*! type! (AMES).

The flowers of these plants closely resemble those of *Stenia pallida*, having in common the general configuration of the lip. The method of adnation of the lip to the column-foot, the structure of the pollinia are those of the genus *Chondrorhyncha*. This new species is perhaps closest to *C. guttata* (Rchb.f.) Garay from Peru from which it differs in having larger flowers without any spots, and differently proportioned floral parts.

***Chondrorhyncha guttata*** (Rchb.f.) Garay, *comb. nov.*

Basionym: *Stenia guttata* Rchb.f. in Gard. Chron. n.s. 14: 134, 1880.

Type: Peru; without precise locality, DAVIS *s.n.*! (W).

I have seen about seven different collections of this rare species, all from Tingo Maria, Muña and San Martín regions of Peru. The narrower floral segments of the strongly maculate flowers readily differentiate it from *C. stenioides* Garay.

**Maxillaria pardalina** Garay, *nom. nov.*

Basionym: *Maxillaria pantherina* Rchb.f. in Bonpl. 3: 239, 1855, not Hoffmsgg. 1844.

Type: Ecuador; Andes [of Quito] JAMESON 761! (W).

Since the specific epithet "pantherina" is preoccupied by a Brazilian species, the Andean plants require a new name.

Although *Maxillaria pantherina* Rchb.f. has been reduced to a synonym of *M. platpetala* Ruíz & Pav. by Brieger and Hunt in 1969, their judgment is based on a single specimen in the Lindley Herbarium. They assumed it to be an isotype of *M. platypetala*, overlooking the fact that Lindley clearly stated in his *Genera and Species of Orchidaceous Plants*, p. 143, 1832, that his only specimen was donated to him by Hooker and it was collected by Hall in Ecuador. When Reichenbach described his *M. pantherina*, he was aware of Lindley's interpretation of *M. platypetala*, for he clearly says "*Maxillariam platypetalam nisi Ruízianam tamen Lindleyanam non novi, quae nonnullis nobis quadrare videtur. Cum tamen cel. auctor procurrentem dicat similliman platypetalae, haec longe certe distat.*"

It seems advisable to repeat Hoffmannsegg's original description for it is very inaccessible; some of its peculiar terminology is explained in parentheses:

**Maxillaria pantherina** Hoffmsegg. — Plantae insidentes, nutricariae (pseudobulbose with fasciculate roots), nutricio sterili (leafbearing pseudobulb) pyramidalis sulcato-costato, foliis binis oblongis et linearibus, inflorescentia laterali, pedunculis (sub-) binis bracteatis, indumentis (bracts) conformibus, oblongis, acuminatis, sulphureo-pomaceis, petalis sepalis  $\frac{1}{3}$  brevioribus dimidio angustioribus, labello 3-lobo albido, circa marginem maculis irregulariter sparsis atropurpureis. Ibid. (Rio de Janeiro). — Judging from the rather poor drawing by Hoffmannsegg, *M. pantherina* most probably is identical with *M. marginata* (Lindl.) Fenzl.

**Osmoglossum candidum** (Linden & André) Garay, *comb. nov.*

Basionym: *Odontoglossum candidum* Linden & André in Ill. Hortic. 22: 58, 1875.

Type: Colombia: DEPT. CAUCA, without precise locality,  
LINDEN *s.n.*

The genus *Osmoglossum* is new to Colombia, and plants must be exceedingly rare, for I have not yet seen a specimen collected in the wild. It appears to be close to *O. Egertonii* (Lindl.) Schltr., but differs in the pandurate lip and the fimbriate column-wings.

***Osmoglossum panduratum* Garay, *sp. nov.***

Epiphytica, usque ad 50 cm. alta; rhizomate repenti, valida; pseudobulbis approximatis, anguste ovoideis, compressis, 2-foliatis, usque ad 9 cm. longis, 3 cm. latis; foliis oblongo-linearibus, loratis, acutis, usque ad 42 cm. longis, 1.5 cm. latis; inflorescentiis erectis vel suberectis, laxe paucifloris, usque ad 30 cm. longis; pedunculis ancipitibus, paucivaginatibus; bracteis lineari-lanceolatis pedicellis aequilongis, usque ad 1 cm. longis; floribus niveis, columna pallide rosea, callo aurantiaco, brunneo-punctato; sepalo postico lanceolato-elliptico, abrupte acuminato, 14 mm. longo, 5 mm. lato; sepalis lateralibus tertiam partem basalem inter se connatis, oblique oblongo-lanceolatis, abrupte acuminatis, 14 mm. longis, 4 mm. latis; petalis late ellipticis, obtusis vel subacutis, 15 mm. longis, 8 mm. latis; labello sessili, pandurato, a medio replicato, basi truncato, antice ovato, abrupte acuto, disco callo W-formi, valde carnosus a basi usque ad medium ornato, explanato 13 mm. longo, 8 mm. lato; columna generis, clinandrio denticulato; ovario cum pedicello geniculato.

**Ecuador:** without precise locality. Imported and grown by JOHN STACY *s.n.*! type! (AMES).

This new species is closely related to *O. pulchellum* differing from it in its much smaller flowers, and in the shape of the lip. In *O. pulchellum* the constriction of the lip is in front of callus, the terminal lobe is larger than the basal part, subquadrate to subrotund, truncate in front and the callus occupies  $\frac{1}{3}$  of the disc of lip. In our plants the constriction of the lip is on the sides of callus, the terminal lobe is smaller than the basal part, ovate, abruptly subacute and the callus occupies  $\frac{1}{2}$  of the disc of the lip.

**Miltonia flava** Lindl. in Gard. Chron. 475, July 15, 1848; Baxt. in Loudon, Hort. Brit. Suppl. 3: 589, 1850.

Type: Brazil, without precise locality, LODDIGES *s.n.*! (K-L).

Syn.: *Odontoglossum anceps* Kl. in Allgem. Gartenzeit. 19: 250, 1851.

*Miltonia anceps* (Kl.) Lindl., Folia Orch. Miltonia 3, 1853.

*Oncidium anceps* (Kl.) Rchb.f. in Walp. Ann. 6: 758, 1863.

Type: Brazil; without precise locality, ALLARDT *s.n.*

*Miltonia flava* has always been an enigmatic species and is still in want of rediscovery. It is known to me only through specimens in the Lindley and Reichenbach Herbaria. The specimen itself is a document of a strange historical background.

Introduced from Brazil by Loddiges around 1843, it flowered but once when it was sent to Lindley for naming. Lindley prepared a fine drawing in color from the already withering flower which is mounted together with the specimen in his herbarium, and annotated by his hand as *Miltonia flava*. At that time Lindley must have also prepared a description, which, however, was not published until July 15, 1848 in the GARDENERS' CHRONICLE, and then anonymously. Baxter, however, not only reported it in Loudon's HORTUS BRITANNICUS Suppl. 3: 589, 1850, but also attributed the name to Lindley. Yet for reasons unknown Lindley, as well as Reichenbach, completely ignored the publication of *Miltonia flava*. In 1853, curiously enough, while writing the pages for his FOLIA ORCHIDACEA, Lindley annotated his specimen of *Miltonia flava* as *Miltonia anceps* and has described it under that latter name without any reference to the earlier publication. Since the original description of *Milton flava* is not readily available, it is repeated here:

“Sp. Char. — Flower-stalk one-flowered, with equitant carinate sheaths. Sepals linear, lanceolate, flat, acuminate. Petals of the same form, but twice as broad. Lip panduriform, slightly hairy, with a cordate-ovate end, and near the base an elevated ridge, which reaches half way down the lip and divides at the point into two short plates. Column with a deep, purple, white-edged, toothed hood, and short triangular wings.

“A rather pretty Brazilian Orchid, from Messrs. Loddiges.

We have only seen a single flower, beginning to wither. It was of a yellow colour, not unlike in size and colour that of *Miltonia stellata*, from which it differs in having an elevated plate passing down the middle, narrower sepals, and a flat panduriform lip. It is No. 1595 of Messrs. Loddiges' Catalogue."

***Odontoglossum heterosepalum* (Rchb.f.) Garay, *stat nov.***

Basionym: *Odontoglossum angustatum* var. *heterosepalum* Rchb.f. in *Linnaea* 22: 850, 1850.

An examination of the holotype, FUNCK & SCHLIM 1242! (W) collected in Merida convinces me that Reichenbach's variety constitutes a distinct species. It is hard to understand why Reichenbach called this a variety of *O. angustatum* Lindl. While his statement added to the description explains a familiarity with the excessive natural variation observable within species of *Odontoglossum*, the variation pattern of *O. heterosepalum* cannot be accommodated within the pattern of variation of the southern *O. angustatum*.

PLATE 1

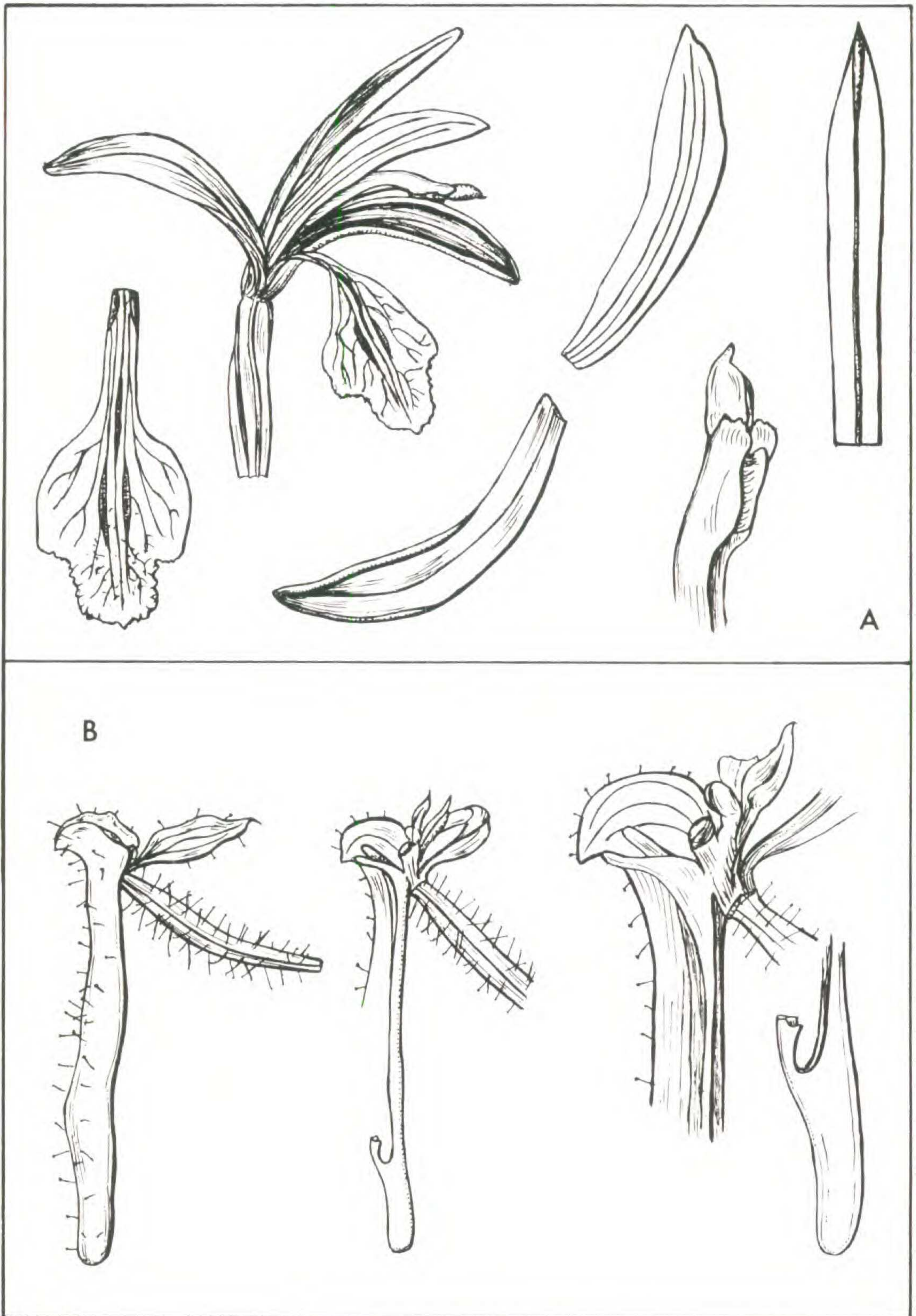


Plate 1. A. *Psilochilus carinatus* Garay. B. *Pseudocentrum Purdii* Garay





PLATE 3

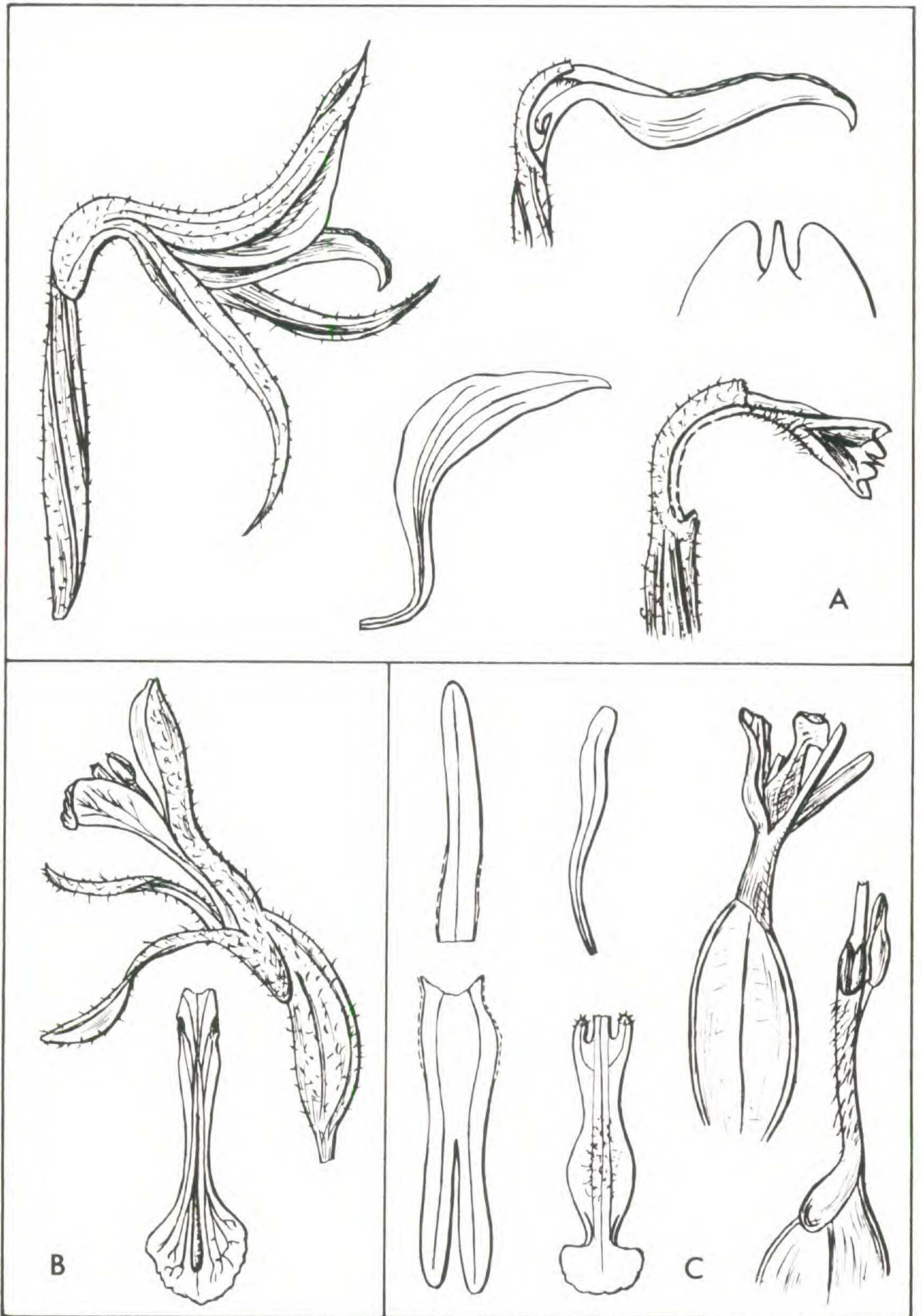


Plate 3. A. *Cybebus grandis* Garay. B. *Sauroglossum distans* Lindl. ex Garay. C. *Cyclopogon ovalifolium* Presl.

PLATE 4

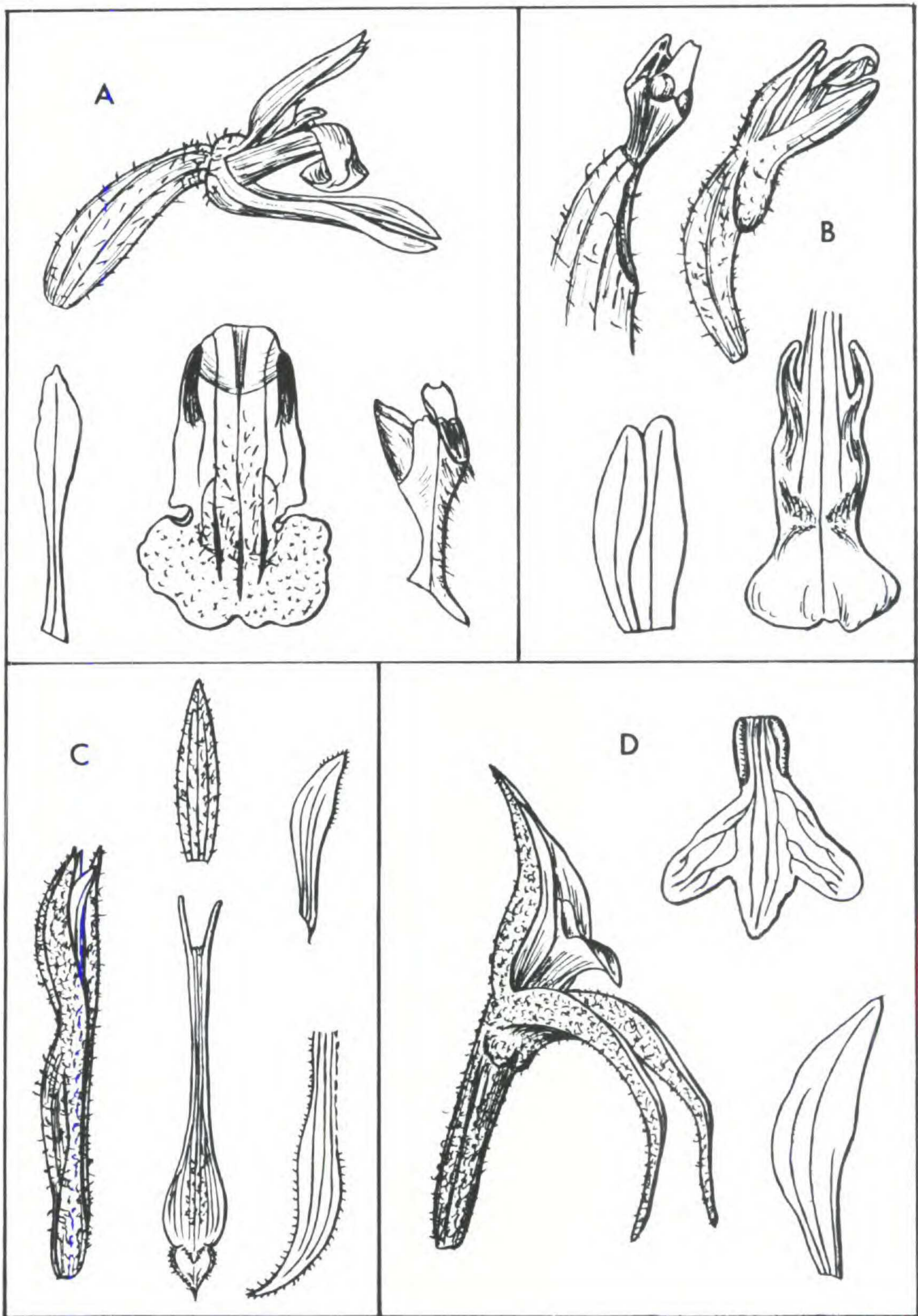


Plate 4. A. *Hapalorchis Lindleyanus* Garay. B. *Pelexia Hameri* Garay. C. *Sarcoglottis Lehmannii* Garay. D. *Buchtienia rosea* Garay.

PLATE 5

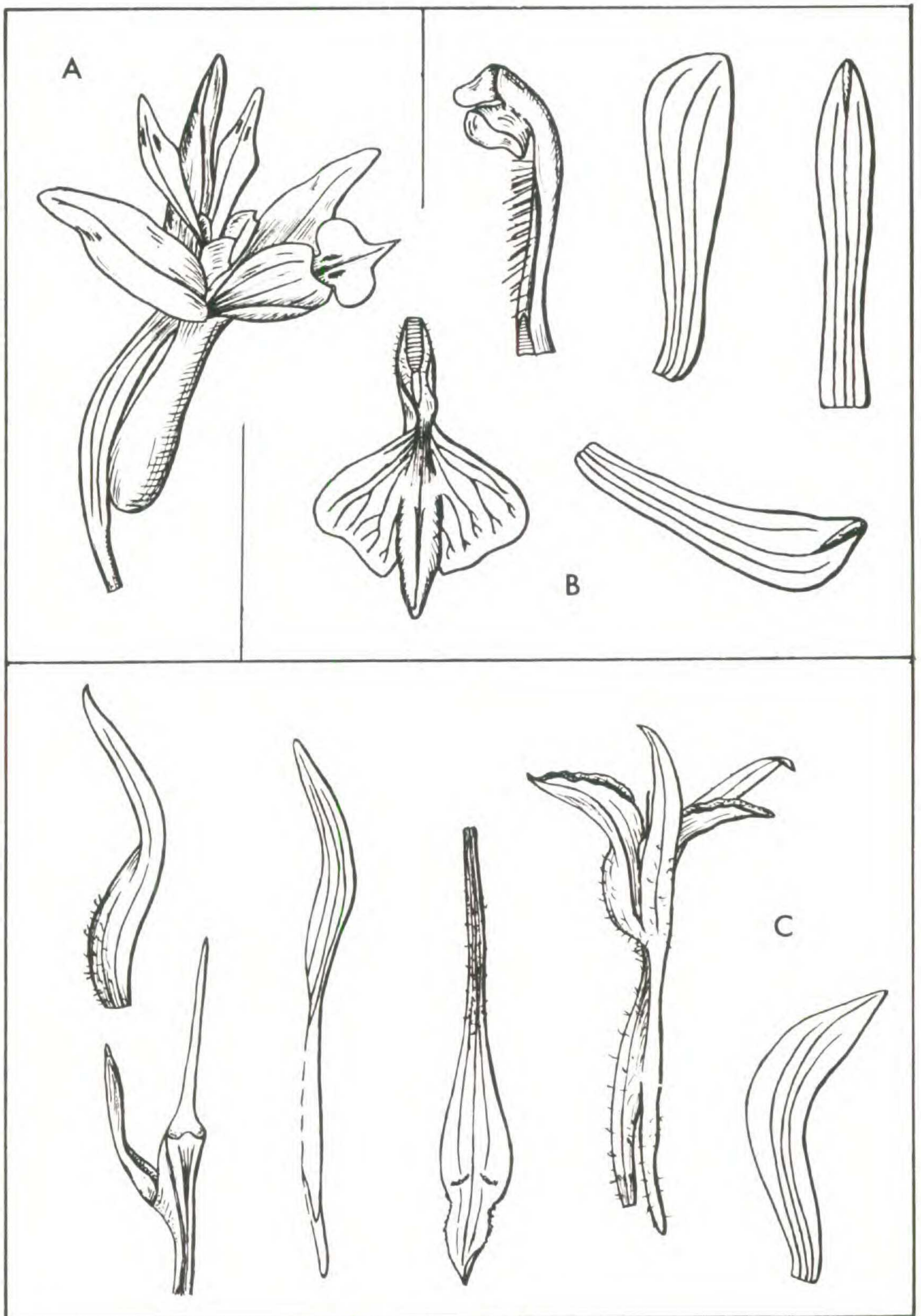


Plate 5. A. *Platythelys peruviana* Garay. B. *Palmorchis colombiana* Garay.  
C. *Eltroplectris pauciflora* (Poepp. & Endl.) Garay.

PLATE 6

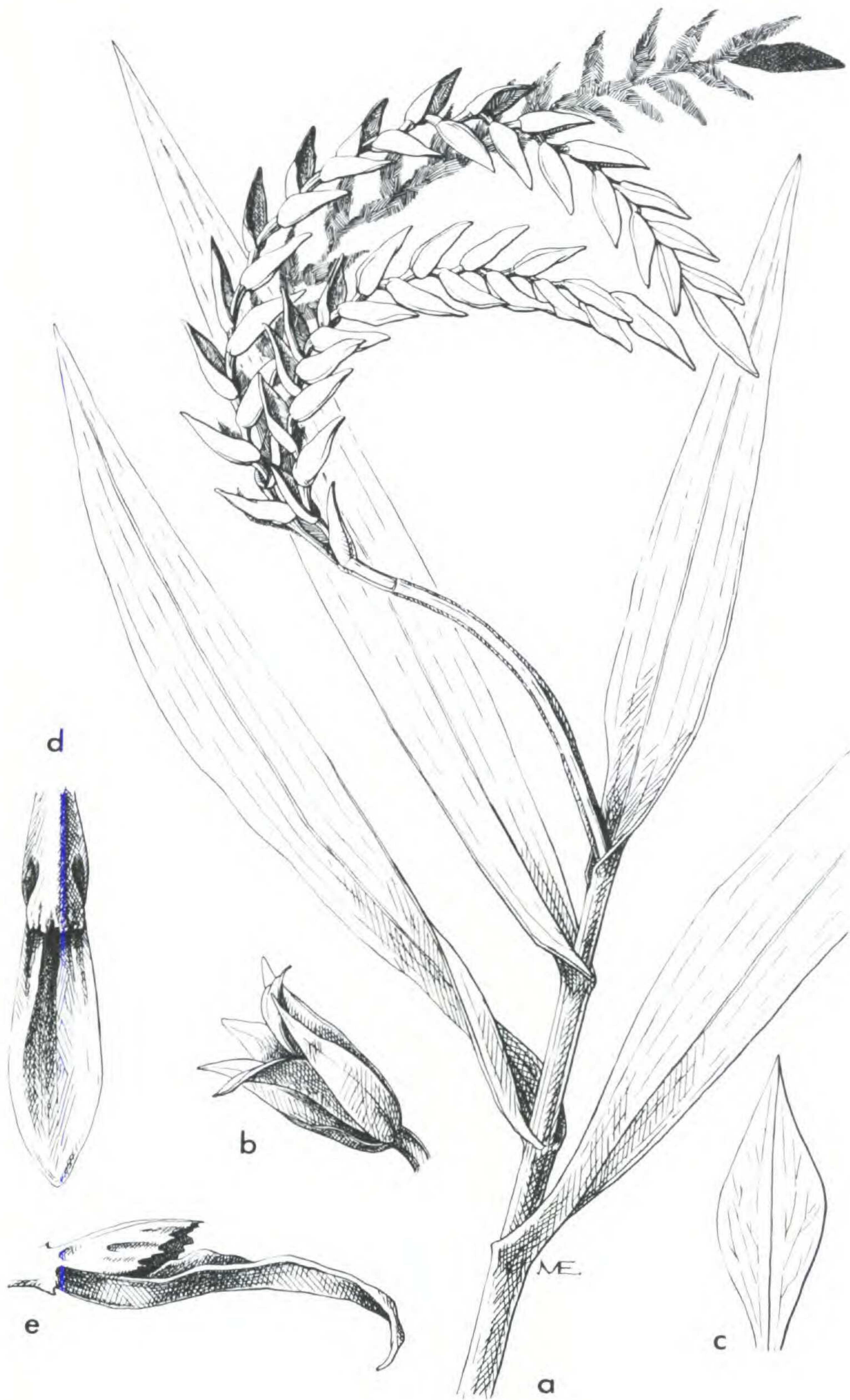


Plate 6. *Epidendrum tropidioides* Garay.

PLATE 7

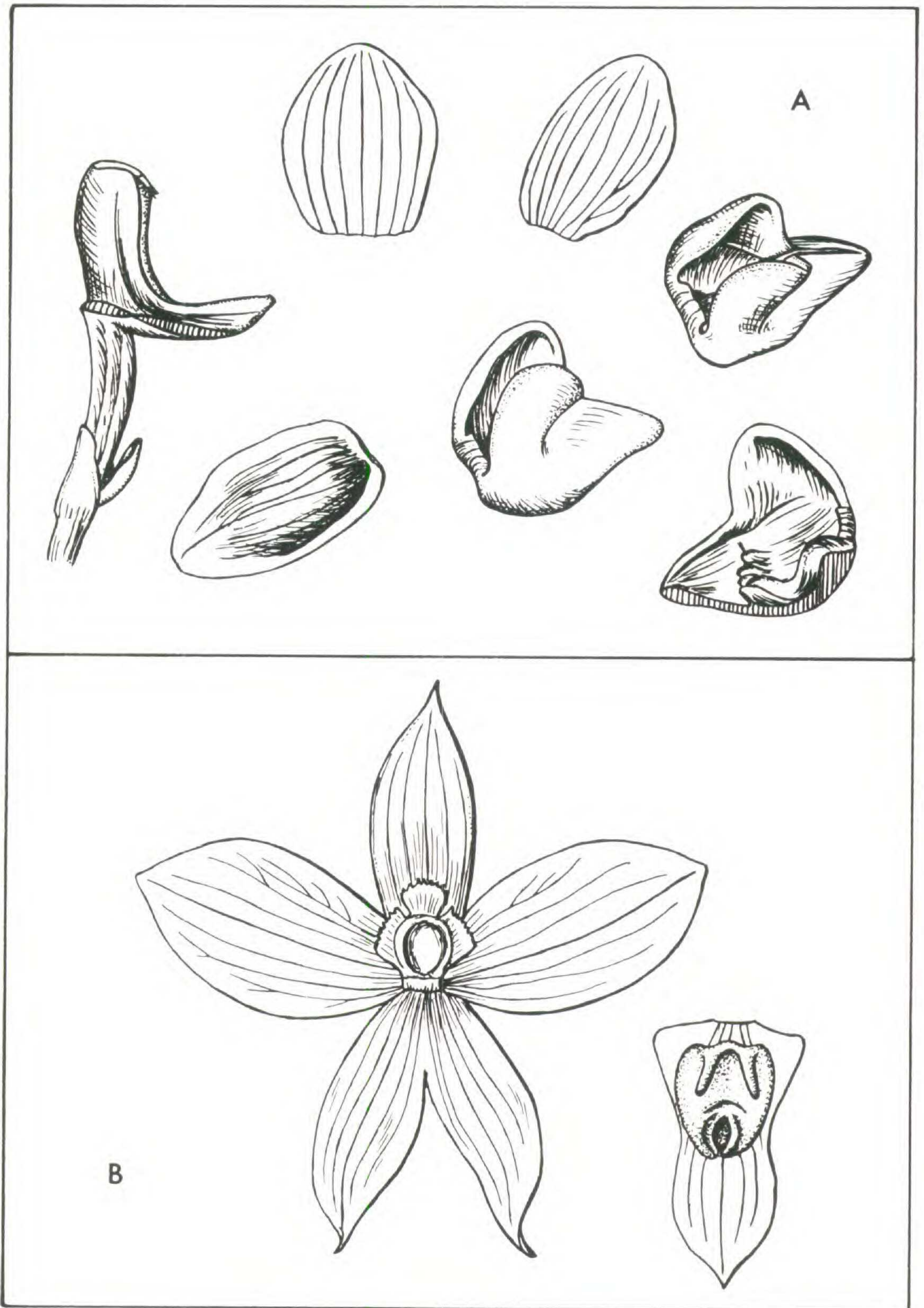


Plate 7. A. *Chondrorhyncha stenioides* Garay. B. *Osmoglossum panduratum* Garay.